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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/747,737	12/29/2003	Todd Bailey	PA97-39D13D21	2048

7590 10/30/2006  
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EXAMINER

LUK, EMMANUEL S

ART UNIT	PAPER NUMBER
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1722

DATE MAILED: 10/30/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

## Office Action Summary

Application No.

10/747,737

Applicant(s)

BAILEY ET AL.

Examiner

Emmanuel S. Luk

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 18 October 2006.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some \* c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
  - ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |  |   |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)                                | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)                       | 5) <input type="checkbox"/> Notice of Informal Patent Application                       |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)<br>Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____  |

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 103***

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

3. Claims 1, 2, 4-6, 8, 10-12, 14, 15, and 17 are rejected under 35 U.S.C. 103(a) as being unpatentable over Su (5632936) in view of Whitesides (6180239).

Su teaches the claimed device with a body (2), supporting plate (1), and supporting plate having an optically finished surface (Col. 2, line 54), a UV light as a curing agent (14), a vacuum system (4) communicating between the supporting plate and the body (Fig. 4).

Su fails to teach the body having an opening for the template and nanolithography template.

There is a gap between the supporting body and body that is capable of holding a template. It would have been obvious for one of ordinary skill in the art to modify Su

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by allowing a template to be placed within the opening (18) as it is capable of holding a template.

Whitesides teaches microcontact printing on surfaces and articles and teaches a template (78) that is mounted on a support (80). The use of a supporting structure to hold a template that is used for imprinting is well known in the art from large scale to microscale imprinting. One of ordinary skill in the art would recognize that the support mechanisms to hold a template for even a nanolithographic template would be the same as for a template of microscale and larger as it is to support the template during operation. The concept is known in imprint lithography and it would be obvious to one skilled in the art to derive that the support could also be applied for a template that contains nanostructures for imprinting. It would have been obvious for one of ordinary skill in the art to modify Su in view of the microcontact printing as taught by Whitesides to apply it to nanolithography because it provides support in holding the template in position for molding.

4. Claims 3, 9, and 16 are rejected under 35 U.S.C. 103(a) as being unpatentable over Su (5632936) in view of Whitesides as applied to claims 1, 8, and 14 above, and further in view of Chou (6482742).

Su, in view of Whitesides, fails to teach the supporting plate formed from quartz, sapphire or silicon dioxide.

Su teaches the body (2) also having the option of being optically finished, and made from glass or plastic. One skilled in the art would recognize these as equivalents

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to quartz, or silicon dioxide. In addition Chou describes transparent mold member being made from fused quartz or glass. Thereby one of ordinary skill in the art to modify Su, in view of Whitesides, with the supporting plate being formed from quartz as taught by Chou because it is an equivalent material for allowing UV transmission to pass through and to allow for curing of the material.

5. Claims 7, 13, and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Su (5632936) in view of Whitesides as applied to claims 1, 8, and 14 above, and further in view of Rogers (6753131).

Su, in view of Whitesides, fails to teach a reflective element connected to a portion of the body.

Rogers teaches reflective surfaces (80, 86, 88) of the plate (66, 84) and it allows for the light that passes through the article (60) to be reflected and pass through again (Figures 3A to 3D).

It would have been obvious for one of ordinary skill in the art to modify Su, in view of Whitesides, with reflective surfaces as taught by Rogers for changing the system and compounding the changes of angle from the article (Col. 3, lines 50-53).

### ***Response to Arguments***

6. Applicant's arguments with respect to claims 1-18 have been considered but are moot in view of the new ground(s) of rejection. Applicants have amended the claims to

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include nanolithographic templates. The new grounds for rejection include the reference of Whitesides that addresses the amended claims.

### ***Conclusion***

7. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Emmanuel S. Luk whose telephone number is (571) 272-1134. The examiner can normally be reached on Monday-Fridays from 9 to 5.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yogendra N. Gupta can be reached on (571) 272-1316. The fax phone

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number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

EL

*Joseph S. Del Sole*  
JOSEPH S. DEL SOLE  
PRIMARY EXAMINER  
10/26/06